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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/552,521

10/07/2005

Vincent Grainer

RN03042

2573

7590

04/03/2009

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Legal Department
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EXAMINER

NILAND, PATRICK DENNIS

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

04/03/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/552,521	Applicant(s) GRAINER ET AL.	
	Examiner Patrick D. Niland	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 December 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-22 and 29-43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15-22 and 29-43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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1. The amendment of 12/24/08 has been entered. Claims 15-22 and 29-43 are pending.

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 15-22, 29-41, and 43 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the disclosed substituents, does not reasonably provide enablement for all of the encompassed substituents by the claimed recitation of “substituted” in claim 15 and the other claims reciting “substituted” without specifying the substituents. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention commensurate in scope with these claims.

A. The instant claims recite “substituted” without specifying what the substituents are. There are an infinite number of potential substituents many of which are not expected to function according to the instantly claimed invention. It would require undue experimentation to determine how to employ each of these substituents and to determine whether or not they will function in the instantly claimed invention.

“Substituted” encompasses all known and yet to be discovered substituents. This is an infinite sized list. There is no general guidance as to how to choose substituents which will function in the instant invention from this list nor how to attach the various moieties encompassed by “substituted”. The instant specification gives no guidance as to how to choose

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the substituents encompassed by the instant claims which will function and those which will not function in the instant claims. It requires an infinite amount of experimentation to determine how to attach most of the moieties encompassed by the instant claims and another infinite amount of experimentation to determine which attached moieties will function in the instant invention. This is undue in that it is impossible to perform. The fact that the chemical arts are unpredictable would require significant guidance from the specification for the ordinary skilled artisan to be able to make substitutions which would function as required of the instant invention, i.e. one cannot predict with any degree of accuracy which substituents will and will not function according to the instant specification without testing them, e.g. testing an infinite sized list of substituents. The instant specification thus does not meet the test for enablement of the full scope of the instantly claimed “substituted” moieties as required by *In re Wands* at MPEP 2164.01 [R-5] Test of Enablement.

Applicant’s argument that the examiner admits that some of the substituents are enabled and page 12, lines 26-30 enables some substituents makes the term “substituted” sufficiently enabling in the manner disclosed at page 12, lines 26-30 of the specification is not persuasive since “substituted” as claimed is not limited to the manner disclosed at page 12, lines 26-30 of the specification. The full scope of the term is not enabled for the reasons stated above. This rejection is maintained for the reasons stated above and because, though it is unclear what “substituted” applies to in the newly amended claims as stated above, the applicant’s arguments are such that the term may be intended to apply in the same manner as was rejected above.

See *Sitrick v Dreamworks, LLC* (Fed Cir, 2007-1174, 2/1/2008)

Before MICHEL, Chief Judge, RADER and MOORE, Circuit Judges.

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MOORE, Circuit Judge.

112(1) Enablement - The enablement requirement is satisfied when one skilled in the art, after reading the specification, could practice the claimed invention without undue experimentation

We review the grant of summary judgment de novo. Liebel-Flarsheim Co. v. Medrad, Inc., 481 F.3d 1371, 1377 (Fed. Cir. 2007). Summary judgment is appropriate “if the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to judgment as a matter of law.” Fed. R. Civ. P. 56(c). Whether a claim satisfies the enablement requirement of 35 U.S.C. § 112, ¶ 1 is a question of law, reviewed de novo, based on underlying facts, which are reviewed for clear error. AK Steel Corp. v. Sollac, 344 F.3d 1234, 1238-39 (Fed. Cir. 2003). The evidentiary burden to show facts supporting a conclusion of invalidity is one of clear and convincing evidence because a patent is presumed valid. Id. The “enablement requirement is satisfied when one skilled in the art, after reading the specification, could practice the claimed invention without undue experimentation.” Id. at 1244.

112(1) Enablement - The full scope of the claimed invention must be enabled.
A patentee who chooses broad claim language must make sure the broad claims are fully enabled.

The full scope of the claimed invention must be enabled. See Auto. Techs. Int’l, Inc. v. BMW of N. Am., Inc., 501 F.3d 1274, 1285 (Fed. Cir. 2007). The rationale for this statutory requirement is straightforward. Enabling the full scope of each claim is “part of the quid pro quo of the patent bargain.” AK Steel, 344 F.3d at 1244. A patentee who chooses broad claim language must make sure the broad claims are fully enabled. “The scope of the claims must be less than or equal to the scope of the enablement” to “ensure[] that the public knowledge is enriched by the patent specification to a degree at least commensurate with the scope of the claims.” Nat’l Recovery Techs., Inc. v. Magnetic Separation Sys., Inc., 166 F.3d 1190, 1195-96 (Fed. Cir. 1999).

The claims are not limited to the substituents of page 12, lines 26-30 of the instant specification that is referenced in the applicant's arguments. If they were, this rejection would not be applied. The claims must be interpreted in their broadest reasonable scope and limitations in the specification are not to be read into the claims. The substituents of the instant claims read on many more substituents than those of the specification, as stated above. The

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scope of the instant claims not supported by the enabling specification, as discussed above, is not fully enabled and is the subject of this scope of enablement rejection. It is noted that this rejection only references those unspecified substituents. It does not cover "substituted with alkyls" for example. The instant claims are not limited to the disclosed substituents. The applicant's arguments are not persuasive for the reasons stated above and this rejection is maintained.

5. Claims 15-22 and 29-43 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

A. The instant claims recite "the adhesive emulsion has a polydispersity index of not more than 1.5" (instant claims 15 and 30) or "the adhesive emulsion has a polydispersity index of not more than 1.3". The enabling specification does not provide enablement for the full scope of the newly recited "the adhesive emulsion has a polydispersity index of not more than 1.5" (instant claims 15 and 30) or "the adhesive emulsion has a polydispersity index of not more than 1.3". See page 23, lines 1-15 for example. Page 23, lines 10-15 reference the polydispersity range claimed as applying only to "the case of the isocyanate alone", not the entire emulsion. Applying the claimed range of polydispersity to the entire emulsion, rather than the isocyanate alone is not supported in the originally filed specification and is therefore new matter. The applicant's arguments relating to the "failing to comply with the written description requirement" rejection do not address this rejection. The rejection argued under this statute was not made in

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the last office action. The applicant's response to the 112, second paragraph issue related to this rejection is noted but does not address this rejection. This rejection is maintained for the above stated reasons.

B. The newly submitted formula of claims 15 and 30, and thereby the claims which depend therefrom, claims an oxymethylene repeating unit due to the placement of the parenthesis nearest the subscript s. This is not supported in the originally filed specification and is therefore new matter. The specification, page 13, line 30 is particularly noted.

6. Claims 15-22 and 29-43 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claims 15 and 30 recite the broad recitations a. mass content of NCO function, b. viscosity, C. $\sum 1+p+2m+q$, d. n and s, e.

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particle size d_{50} , f. polydispersity index; and the ranges of claims 16, 17, and 29, and the claims also recite narrower ranges of these broad ranges denoted by “optionally”.

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 15-22 and 29-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Pat. No. 6528573 Probst et al. in combination with the teachings of US Patent Application Publication No. 2001/0021746 A1 Nabavi et al..

Probst et al. discloses aqueous emulsions which may contain phosphorous containing and ethylene oxide containing emulsifier and polyisocyanates falling within the scope of those of the instant claims as adhesives at the abstract; column 1, lines 66-67; column 2, lines 1-67, particularly 1-12 which encompasses the instantly claimed isocyanate composition; column 4, lines 23-40, which encompasses the instantly claimed surfactant (b); column 5, lines 64-67, which when coupled with the particulars of the polyisocyanate of Probst, particularly the viscosity, which is indicative that the polyisocyanates of Probst are of low molecular weight as indicated by the disclosed viscosity and its relation to molecular weight by definition of “viscosity average molecular weight”, indicates that the instantly claimed polydispersity and d_{50} are expected of the polyisocyanates of Probst since the lower particle sizes of Probst are not expected to be able to vary significantly to achieve the lower average sizes due to constraints on such average particle sizes conferred by the polyisocyanate molecule sizes where the instantly claimed polydispersity is intended to be that of the isocyanate alone as described in the instant

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enabling specification; column 6, lines 1-12, which encompasses the instantly claimed viscosity and isocyanate content based on the relationship of viscosity and molecular weight and the relationship of molecular weight to isocyanate content, lines 13-67; column 7, lines 1-67, particularly 1-3; column 8, lines 1-12 and 19-37, particularly lines 33-37 which is the instantly claimed joining of at least two surfaces with the applied emulsion; and the remainder of the document. Probst does not disclose the instantly claimed surfactant. Column 6, lines 26-67, e.g. lines 54-55 of Probst falls within the scope of the instant claim 37.

It would have been obvious to one of ordinary skill in the art at the time of the instantly claimed invention to use the instantly claimed surfactant as that of Probst because Probst encompasses the instantly claimed surfactants, as discussed above, and the benefits thereof as described in Nabavi would have been expected in the adhesive method of Probst.

Nabavi discloses the instantly claimed compositions at the abstract, which encompasses all free NCO groups, sections [0051]-[0059] which encompasses the instantly claimed surfactant, sections [0108]-[0124] of which [0110] encompasses the instantly claimed viscosities and the identities of the specific isocyanates have the instantly claimed NCO contents, e.g. the exemplified isocyanates have the instantly claimed NCO contents though does not use it for the instantly claimed adhesive method. The reference disclosure at section [0110] regarding lowering viscosity and reducing solvent content by using trimers or dimers discussed therein and the viscosity requirements of this section coupled with the ordinary skilled artisan's understanding of how viscosity is affected by molecular weight by definition of "viscosity average molecular weight" is such that the ordinary skilled artisan would have envisioned the instant claims 16-17 and 20-22 from the reference's disclosure at section [0110]. It is not seen

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that the compositions of the reference contain any excess acid nor base and are therefore expected to have pHs in the broad range of the instant claim 26, particularly if they are used as coatings, which cannot degrade the substrates they are applied to. The polyols of section [0011] fall within the scope of the instant claim 24. The coatings adhere to substrates which meets the requirement of the instant claims such that the benefits of using the instantly claimed surfactants that are described by Nabavi would have been desired in Probst, including the inference of Nabavi, section [0014] that the instantly claimed surfactants do not cause poor adhesion. In other words, Nabavi and Probst are analogous art because they both are concerned with adhering aqueous compositions of polyisocyanates to a substrate. Such adhesion applies to coatings and adhesives as has been experienced by anyone who has allowed a paintbrush to dry while in contact with another surface. The instantly claimed particle sizes are disclosed at section [0072]. The instantly claimed pH is disclosed at section [0157]. The instantly claimed “emulsion” is met at section [0010] and section [0151]. Sections [0072], [0172]-[0173], and [0176]-[0179] appear to encompass the instantly claimed “for a polydispersity index...not more than 1.3” though the examiner remains uncertain what exactly is required by the claim language. It is therefore not seen that the emulsions disclosed by the reference containing the instantly claimed isocyanates, emulsifiers, water, pH, and made by the processes of the reference, such as sections [00154]-[0157] do not necessarily and inherently possess the instantly claimed parameters related to particle size and polydispersity necessarily and inherently. See MPEP 2112.

It would have been expected that the composition properties and parameters that result from the surfactant of Nabavi would have been expected in the compositions of Probst.

The caselaw argued by the applicant is noted. The above rejection meets the requirements thereof. The argument that the phosphate surfactant of Probst is used to make the polyols is noted. However, it is not removed from the polyols and will therefore be in the final product of Probst. This argument is therefore not persuasive. The polyols per se may emulsify the isocyanate but the phosphate emulsifier will also emulsify it due to its inherent nature. See MPEP 2112. It is noted that the phosphate emulsifier remains in the aqueous dispersion of polymers a) of column 7, lines 62-67. The instant claims recite “wherein the adhesive emulsion includes particles having a particle size d_{50} of not more than...” Column 5, lines 64-67 clearly show that the adhesives of Probst in fact include particles of the instantly claimed particle size. The instant claims do not relate the particle size to the entire adhesive emulsion. Since the applicant insists that the claimed polydispersity index is in fact related to the entire adhesive emulsion and the adhesive emulsion contains water in such large weight and number of particles, the polydispersity of the emulsions of the patentee must necessarily have the polydispersities of the instant claims based on the entire emulsion. The applicant’s arguments in these regards are therefore not persuasive. Applicant’s arguments that the instant claims are directed to the method of use of an adhesive emulsion is met in the citation of Probst, column 8, lines 33-37, which is the instantly claimed adhesive method per se. Nabavi is not cited for this use. It is cited for the specific surfactants generally encompassed by Probst. The applicant’s arguments that Nabavi does not disclose the adhesive method per se does not address the above rejection, which is based on the combination of Probst and Nabavi, not Nabavi alone. The examiner addresses the analogousness of Probst and Nabavi above. MPEP 2141 and 2143, particularly the portions relating to the cited “KSR” decision, are noted. More particularly aqueous emulsions of binder

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will form films even if described as adhesive and adhere substrates even if only described as a coating composition. The applicant is invited to see if that is not true of the emulsions of each of Probst and Nabavi. The examiner therefore maintains that the cited references are analogous art to each other. Most importantly, Probst discloses the genus of the emulsifiers generally that are more specifically disclosed by Nabavi. Differences argued by the applicant are not shown to exist between the two patent's compositions. It is not seen that the compositions of Probst cannot also have the argued properties, particularly since they are also coatings as well as adhesives. The instant claims do not recite any standards of breaking strength and peeling nor are sufficient limitations recited to make these inherent to the full scope of the instant claims. Applicant's arguments relating to Hawley and LeSota are noted but Probst's disclosure that their compositions are both adhesive and coatings negates this and Hawley does not show that Nabavi's compositions are not adhesive, which they must necessarily be to adhere to a single substrate. One could necessarily adhere two substrates with the compositions of Nabavi, for the reasons stated above. LeSota is not supplied and not available readily to the examiner. Arguments related to LeSota are therefore not supported. The arguments rebutting Hawley would apply equally to the applicant's characterization of LeSota. The argument that Nabavi fails to disclose or suggest all features of claims 15 and 30 again ignores the above rejection, which does not require anticipation clearly and does not rely on Nabavi to disclose all features of claims 15 and 30 nor require this. The coating must necessarily adhere to the substrate. The instant claims recite no limitations sufficient to inherently establish unexpected results over the cited prior art in a manner commensurate in scope with the cited prior art and the instant claims and the applicant does not probatively demonstrate unexpected results over the cited prior art in a

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manner commensurate in scope with the cited prior art and the instant claims. The argument about what the instantly claimed emulsifier does to coating adhesion is not supported with probative evidence. Probst discloses the use of its genus and Nabavi discloses the instantly claimed emulsifier with both Probst and Nabavi disclosing compositions which must adhere to substrates. The instantly claimed emulsifier clearly does not inhibit attachment in Nabavi.

The applicant's arguments have been fully considered but are not persuasive for the reasons stated above.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick D. Niland whose telephone number is 571-272-1121. The examiner can normally be reached on Monday to Friday from 10 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reached on 571-272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Patrick D Niland/
Primary Examiner
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